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SPECIAL REPORT OF THE COMMITTEE ON RULES AND ADMINISTRATION ON OVERSIGHT HEARING ON THE OFFICE OF TECHNOLOGY ASSESSMENT

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Mr. MATHIAS, from the Committee on Rules and Administration, submitted the following

REPORT

INTRODUCTION

Rule XXV of the Standing Rules of the Senate gives to the Committee on Rules and Administration jurisdiction over the services provided to the Senate by the legislative branch support agencies. In 1972 the Subcommittee on Computer Services of the Committee on Rules and Administration held the hearings which led to the enactment of the Technology Assessment Act of 1972 and the creation of the Office of Technology Assessment. During the decade since then, no part of the legislative branch has grown as fast as the support agencies. While they have a generally low visibility, the General Accounting Office, the Congressional Budget Office, the Congressional Research Service, and OTA provide essential research and analytical services to Congress.

In a time of retrenchment, however, all areas of the government must be examnied to ensure that adequate services are provided at a minimum necessary cost to the public. The Rules Committee oversight hearing on the Office of Technology Assessment is the first in a series of scheduled hearings on all of the support agencies. In these hearings, particular attention will be paid to the questions of usefulness to the Congress, usefulness to our constituents, and cost. Other issues examined will include the question of duplication of effort and cooperation among the support agencies, staffing policies, publication policies, non-partisanship, and timeliness of product delivery. The Committee plans to issue its reports as the hearings progress. Any suggested amendments will be withheld until all of the hearings are completed, at which time an omnibus support agency amendments bill may be reported.

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HISTORY

The concept of an Office of Technology Assessment was first formally introduced in 1966 by Emilio Q. Daddario (D-Connecticut), the Chairman of the Subcommittee on Science, Research, and Development of the House Committee on Science and Technology. The idea was extensively studied and debated for several years, both in and out of Congress, and a rough consensus was reached as to the feasibility of, and the need for, such an organization. Representative Daddario left Congress in 1970, but the idea was already well established, and on October 13, 1972, President Nixon signed into law an act creating the Office of Technology Assessment.

The early history of the organization was uneven. Several months passed before the appropriations for OTA were approved, and more time elapsed before the statutory boards, the Technology Assessment Board and the Technology Assessment Advisory Council, could organize themselves and start hiring. Former Representative Daddario was selected as the first Director of OTA.

Perhaps the basic problem facing OTA at its inception was the definition of the term "technology assessment." In the enabling act, the Congress recognized that changes in technology were accelerating and were requiring more and more public policy decisionmaking. Congress realized that it was increasingly less able to understand the ramifications of these changes without technical assistance, and that it needed competent, unbiased information independent of the executive branch. In 1972, technology assessment was a new field being undertaken by a few professors in widely scattered universities. Nowhere in the world was there an organization solely dedicated to understanding the scientific and social impacts of technological change. Added to this was the complication that the idea of OTA had had relatively different legislative histories in the Senate and the House of Representatives, and that the two bodies had different expectations of what OTA should be trying to accomplish.

OTA's more visible problem in its early years was the lack of an organizational model on which the office could be patterned. The enabling legislation was quite vague in this regard, and what specifics there were had changed between the hearings on the bill and its final passage. In retrospect, this vagueness may have been an asset; Congress couldn't have known exactly what would be the most efficient way to accomplish specific assessments and the enabling act has left OTA room to experiment. In its first years, OTA's expenditure of funds and its organizational hierarchy fluctuated wildly. The initial lack of definition of the roles of the TAB, the TAAC, and the office of the Director created dissension and alienation among the three groups and divided loyalties in the staff. At this same time, OTA must have been one of the most heavily studied and investigated offices in the world: in the first half-decade of OTA's existence it received at least one exhaustive list of suggested changes per year, usually in contradiction to the exhaustive list of the previous year. Perhaps the nadir of the organization's history was in 1977, when Director Daddario resigned under political pressure, and the vice-chairman of the TAB and another senior member of the TAB both left their posts.

Since 1977, the history of the organization has been much brighter. In the early years of OTA, the director did not have full control over personnel decisions, and early patronage appointments provoked complaints about the quality of the staff. Since this early phase, however, the staff has developed a reputation for objectivity and efficiency. OTA has developed excellent links with the scientific community, and has been able to enlist the aid of the most distinguished scientists in the country.

During OTA's maturing process, there was friction between OTA and the other congressional support agencies, and OTA itself fluctuated between almost trivial short-term work requested by Congress and long-term work that was too speculative to be useful. Both problems have, for the most part, been substantially solved. OTA has developed a close working relationship with CBO, CRS, and GAO to share information and avoid duplication. In recent years, where the different support agencies have studied the same issues, each has concentrated on their own areas of expertise and has produced reports that complement each other, allowing Congress to see problems from different vantage points. In response to earlier criticisms, OTA has instituted procedures to enable it to collect and identify all the previous data on a subject (published or unpublished) before it begins its own work. (Primarily, these procedures include consultation with experts in the field who either have conducted previous research or know of those who have.) The office has also struck a balance between its longer-term "early warning" function and its shorter-term response to committee request function, so that it screens out requests that are too trivial and that do not involve technical issues, as well as those for which not enough data exists for a useful assessment. Both the committee requested studies and the staff initiated early-warning studies serve Congress; several witnesses at the Rules and Administration Committee hearing indicated that OTA has achieved sufficient credibility within Congress that it could cautiously increase the number of OTA-initiated studies.

In recent years the success of OTA has been measured in several ways. Committee acceptance of OTA findings has been nearly universal, and studies undertaken for one committee have frequently been found useful by other committees. OTA experts are often called upon to give testimony at hearings. The volume of requests for new assessments by the organization has consistently outpaced OTA's capacity to perform them. Perhaps more surprising has been the acceptance of OTA outside the Congress. OTA reports have several times been reprinted by commercial publishers, and have been used as university textbooks. The press has valued OTA's ability to express complex issues in understandable form, and has extensively reported OTA findings. In recent years OTA has significantly refined the tone of national discourse on problems of wide public interest. Perhaps the best indication of OTA's success is that several foreign countries have begun to create similar agencies patterned on this American prototype.

COMMITTEE ACTION

The Committee on Rules and Administration held an oversight hearing on the Office of Technology Assessment on February 5, 1982.

The proposed Committee amendments which would amend the Technology Assessment Act of 1972 are a product of the recommendations made at that hearing. Those who testified were:

Honorable Ted Stevens (R-Alaska), United States Senate, Chairman, Technology Assessment Board.

Honorable Morris K. Udall (D-Arizona), United States House of Representatives, Vice-Chairman, Technology Assessment Board.

Honorable George Brown (D-California), United States House of Representatives.

Dr. Frederick C. Robbins, President, Institute of Medicine of the National Academy of Sciences.

Dr. John B. Slaughter, Director, National Science Foundation.

Dr. John H. Gibbons, Director, Office of Technology Assessment.

In addition, the following submitted statements for the record:

Honorable Ernest F. Hollings (D-South Carolina), United States Senate.

Honorable Charles A. Bowsher, Comptroller General of the United States.

Honorable Gilbert Gude, Director, Congressional Research Service.

Honorable Alice M. Rivlin, Director, Congressional Budget Office.

Dr. Charles N. Kimball, Midwest Research Institute, Chairman, Technology Assessment Advisory Council.

Dr. Jerome Wiesner, Former President, Massachusetts Institute of Technology, Vice-Chairman, Technology Assessment Advisory Council.

Dr. James C. Fletcher, Burroughs Corporation.

Dr. Don E. Kash, The University of Oklahoma at Norman.

Dr. Edward E. David, President, Exxon Research and Engineering Company.

Dr. William D. Carey, American Association for the Advancement of Science.

Dr. Joyce C. Lashof, University of California, Berkeley.

Mr. Alan McGowan, President, Scientists' Institute for Public Information.

Dr. Harvey Brooks, Harvard University.

Dr. Irvin L. White, President, New York State Energy Research and Development Authority.

Dr. William K. Reilly, President, Conservation Foundation.

Dr. Frank Press, President, National Academy of Sciences.

Dr. Louis H. Mayo, The George Washington University.

Dr. David J. Rose, Massachusetts Institute of Technology.

Dr. Jerry Grey, American Institute of Aeronautics and Astronautics.

Dr. John L. McCormick, Environmental Policy Center.

Dr. Emery N. Castle, President, Resources for the Future.

Mr. J. Fred Bucy, President, Texas Instruments Incorporated.

Mr. Robert M. Bartell, Liberty Lobby.

COMMITTEE FINDINGS

The Committee on Rules and Administration received a strong bipartisan show of support for OTA. Although the organization suffered in its early years from a perception that it would become a tool of those factions which had lobbied for its creation, OTA has survived

its birth pangs and has become a productive Congressional support agency. The bipartisan nature of the Technology Assessment Board, composed equally of House and Senate members and equally of members of the majority and the minority of each house, and determined, continuous efforts by the Board members since its inception, have prevented the politicization of OTA. Members of both houses of Congress from both parties and from several different regions of the country testified to the need for, and the effectiveness of OTA, and further testified to the broad support which the Office enjoys among their colleagues. OTA was further praised by industry representatives, environmentalists, university professors, laymen, research institutes, people with governmental experience on the national and state levels, and people from across the ideological spectrum. All praised OTA's ability to gather and sift complex data, separate fact and bias, and present the available alternatives without trying to impose an agenda of its own on the recipients of its reports.

Several areas of praise were particularly strong. One was the excellence of OTA's advisory panels and resident fellows program. Another was OTA's access to the best minds in the scientific community. Communication with outside experts avoids needless duplication of effort and ensures that OTA work is as up to date as possible. This ability to call on outside experts for short periods of time accounts for OTA's unusually high rate of personnel turnover, just as the extremely technical nature of their work accounts for the high ratio of professional to clerical staff, compared to the other support agencies. Another area of praise is the consistently good cooperation among the support agencies. (Perhaps this area of praise is most notable in contrast to the complaints on this score some years ago.) Because of the extremely fluid nature of the different projects OTA engages in, the Office's reliance on contractors and consultants was universally seen as an asset which allows flexibility, rather than the liability such a reliance normally could be. Permanently hiring all the professionals in all the different fields which OTA would need to accomplish its mission would be prohibitively expensive. The combination of in-house and expert panel reviews ensures objectivity and accuracy. OTA has not hesitated to ask for corrections and improvement to contracted material, and on occasion even to scrap completely material which did not meet its standards. OTA reports have proved consistently useful both to Congress and the general public in refining the issues and finding the useful details. Several witnesses mentioned the OTA report on MX missile-basing alternatives as a good example of a study which built on earlier, inadequate, and often conflicting studies, and critically used public data, classified data, executive-branch expertise and private resources to produce a report which examined feasible alternatives rather than prescribing policy recommendations.

Areas for improvement

OTA has done ground-breaking work in reaching a working definition of "technology assessment," and in defining its sphere of activity as opposed to the spheres of CRS, CBO, and GAO. Unfortunately, the distinctions have not been as clear to the users of these agencies, creating unnecessary friction and delay. Written guidelines detailing what is and is not within the jurisdiction of OTA, and what type of work it is and is not capable of doing within its resources,

should be more available to the Congress. These should also specify as much as possible the differences between the responsibilities of OTA, CRS, CBO, and GAO, while maintaining OTA's flexibility and responsiveness to Congress.

OTA has been very successful in communicating and coordinating its work with CBO, CRS, and GAO. The Congressional support agencies keep each other well-informed about the work they have available and currently in preparation. This information has been less readily available from OTA to the Congress.

A concise but detailed periodically updated index of the studies which OTA has completed or which are in progress would be very useful to committees, individual members, and staffs; this index should be issued monthly. Another service which OTA users would find useful is the preparation of preliminary reports during the course of a study. These would allow committees to have a better idea of the directions in which the research is going before the receipt of the final, more detailed report. Wherever possible, OTA should attempt to start and finish studies requested by committees within one Congress. Committee memberships and interests often change dramatically between Congresses, so that an OTA assessment can lose much of its impact solely by not being presented in the Congress in which it was requested. Where it is impossible to finish a study within one Congress, the committee(s) involved should be notified as soon as it is known that the study will run longer, and the committee(s) should be asked if the study still should be undertaken. As was done at the beginning of the 97th Congress, new committee leaderships should also be contacted as soon as is practicable at the start of a Congress for confirmation that they still want assessments to continue which were requested by that committee in the previous Congress. Also, greater efforts should be made in the areas of completing amendments within the time period and budget estimated at the outset of the project. Nonetheless, all of these suggestions are (by comparison to OTA's actual work) relatively minor; even normal critics of legislative branch spending concede that OTA produces a great deal from a small budget.

Appraisal by the House Committee on Science and Technology and its Recommendations

In 1978 the Subcommittee on Science, Research, and Technology of the House Committee on Science and Technology made the most comprehensive review of OTA to date. Among their findings was that OTA was still so young that no amendment to its charter was yet appropriate. Four years later, the organization has matured sufficiently so that the future of OTA can be better addressed. Nonetheless, the House report proposed several areas of possible amendment, which, given the depth of its investigation, deserve to be addressed.

The Senate Committee on Rules and Administration fully endorses the House committee's first conclusion, which is quoted in full:

"OTA has been set up to do a job for the Congress which is: (a) essential; (b) not capable of being duplicated by other legislative entities; and (c) proving useful and is already relied upon.

"OTA should retain its basic operating method of depending to a large extent on out-of-house professional assistance in performing its assessments.

"Continued Congressional support for OTA is warranted."

The House committee spelled out several areas where it thought amendments might be necessary. The first was the Technology Assessment Board. The basic form, three Senate Democrats, three Senate Republicans, three House Democrats, and three House Republicans, is widely seen as a great strength guaranteeing a bipartisan, responsive OTA. In the view of the witnesses testifying before the Rules Committee, no further rules for the TAB are necessary to limit the current membership. The current rules give flexibility and stability. No one suggested that they be changed, primarily because of the professional, non-controversial administration of Senator Stevens and Representative Udall. Allowing unlimited terms of service on the board and allowing someone to be Chairman as often as every other year allows interested members of Congress to give OTA the full benefit of their experience and knowledge. As to a sharper delineation between the functions of TAB and the Director of OTA, this has not been a problem area for some years. Current relations between the two are very cooperative, and the precedents seem to have been established so that they can continue to be so. Testimony before the Rules Committee indicated that no legislative change is necessary on this point now since the initial friction has disappeared.

As for the Office of the Director, the distinction between his role of "operations" and the TAB's role of "policy" has proven workable. Giving the Director a vote on the TAB would be disruptive, confusing non-partisan operation with partisan policy-making. The law is not currently in need of amendment in this area.

The Rules Committee proposes adding the Director of the CBO to the Technology Assessment Advisory Council. The Comptroller General and the Director of CRS currently serve on this body, and the addition of the Director of the CBO will facilitate communication between the Congressional support agencies. The TAAC has adjusted to its advisory role, and no dissatisfaction was reported by its members that would necessitate other amendments. Care must be taken, however, to ensure that in the future the TAAC includes as broad a range of people as possible, both in terms of regions and in interests. A TAAC composed entirely of university professors does not serve the OTA as well as a more diverse group.

The Rules Committee proposes adding clauses enabling the Congressional Budget Office to cooperate with OTA in the same fashion CRS and GAO can. The heads of CRS, GAO, and OTA agreed that the current law is sufficient, clear, and non-burdensome to the three agencies. Close cooperation is of course desirable between the support agencies; with the addition of the CBO clauses, the present law will be the best framework for this cooperation.

The Rules Committee has noted some changes that might be possible in assessment reports, but this is not an area that requires legislation. The current legislation allows OTA flexibility in format to best respond to the unique demands which each individual assessment makes. In addition, no witness before the Rules Committee indicated that the "recommendations" clause of the OTA charter was causing confusion or needed to be amended.

Of the other House Committee recommendations, most are procedural and have generally been enacted. Rules Committee witnesses were split between those who believe the current split between long-

range, OTA-initiated reports and short-term, committee initiated reports is the correct balance, and those who believe a few more long-range reports are in order. It is not a major problem area. The problem of mandated reports was not mentioned by any Rules Committee witnesses; it seems to have resolved itself since 1978.

OTA has matured and improved since 1978; it is not in need of as much amending legislation as the House Committee on Science and Technology anticipated might be necessary in that year. The Rules Committee believes that the amendments it is proposing remedy obvious defects and omissions in the charter of OTA. The problems of OTA's first years are gone; sufficient organizational precedents exist to prevent their recurrence. Should they recur, amendment can be made at that time. It would be entirely speculative to predict what problems might occur far in the future; it would be extremely difficult to remedy them now without affecting operations that are currently smooth. OTA is today doing a good job with small resources both for the Congress and the public at large, and it deserves further support without undue meddling in what is now an effective and efficient organizational structure.

COMMITTEE ON RULES AND ADMINISTRATION PROPOSED AMENDMENTS TO THE TECHNOLOGY ASSESSMENT ACT OF 1972

(a) That subsection (d) of section 3 of the Technology Assessment Act of 1972 (2 U.S.C. 472(d)) is amended—

(1) in the matter preceding clause (1), by striking out "request" and inserting in lieu thereof "joint request", and

(2) by striking out clause (1) and inserting in lieu thereof the following:

"(1) the chairman and the ranking minority member of any standing, special, or select committee of either House of the Congress, or the chairman and vice chairman of any joint committee of the Congress.".

(b) Section 7(a) of such Act (2 U.S.C. 476(a)) is amended—

(1) by striking out "and" at the end of clause (2),

(2) by striking out the period at the end of clause (3) and inserting in lieu thereof "; and", and

(3) by adding after and below clause (3) the following new clause:

"(4) the Director of the Congressional Budget Office.".

(c) Such Act is further amended by adding after section 8 (2 U.S.C. 477) the following new section:

"UTILIZATION OF THE CONGRESSIONAL BUDGET OFFICE

"SEC. 8a. (a) To carry out the objectives of this Act, the Director of the Congressional Budget Office is authorized to make available to the Office such services and assistance of the Congressional Budget Office as may be appropriate and feasible.

"(b) Such services and assistance made available to the Office shall include, but not be limited to, all of the services and assistance which the Congressional Budget Office is otherwise authorized to provide to the Congress.

"(c) Nothing in this section shall alter or modify any services or responsibilities, other than those performed for the Office, which the Congressional Budget Office under law performs for or on behalf of the Congress.

"(d) Services and assistance made available to the Office by the Congressional Budget Office in accordance with this section may be provided with or without reimbursement from funds of the Office, as agreed upon by the Board and the Director of the Congressional Budget Office.".

EXPLANATION OF AMENDMENTS

The amendment to subsection (d) of section 3 of the Technology Assessment Act of 1972 changes the way in which a committee requests a study. Currently, only a letter with the signature of the Chairman is required. The proposed amendment would require signatures of both the Chairman and Ranking Minority Member, or Chairman and Vice-Chairman of a joint committee. OTA currently receives many more requests than it can fulfill, and it is the intent of this amendment to emphasize that requests for assessments be bipartisan and on behalf of the full committee—thus the requirement for the signatures of both committee leaders. This new procedure would parallel current Senate practice when committees request contractual studies or services.

The amendment to subsection 6(a) allows OTA to receive and use donated funds. This authority is modeled on the present authority of the National Science Foundation to receive and use such funds. This ability should marginally reduce the cost of OTA to the taxpayers, as well as providing OTA with a degree of flexibility which it does not now have.

The amendment of subsection 7(a) adds the Director of the Congressional Budget Office to the Technology Assessment Advisory Council. The Director of CRS and the Comptroller General are already members of TAAC. CBO was created after OTA, and the failure to place the Director of CBO on the TAAC was an oversight in the drafting of the Congressional Budget Act of 1974. This amendment remedies that oversight, and serves to endorse statutorily the current excellent communication and interaction among the Congressional support agencies.

The addition of section 8(a), subsections (a–d) allows CBO and OTA to assist one another. The wording is modeled precisely on that in sections currently authorizing cooperation between OTA and the other agencies. Again, this corrects a simple omission in the creation of CBO, and seeks formal authorization of a cooperation that is in fact already going on, with laudable results.

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